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EXAMINER

MISLEH, JUSTIN P

ART UNIT	PAPER NUMBER
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2622

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 09/765,369	Applicant(s) KANAMORI ET AL.	
	Examiner Justin P. Misleh	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 5 and 7 - 70 is/are pending in the application.
- 4a) Of the above claim(s) 8, 10 - 40, 43 - 47, 49, 54, and 57 - 62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 5, 7, 9, 41, 42, 48, 50 - 53, 55, 56, and 63 - 70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 6, 2006 has been entered.

Response to Arguments

2. Applicant's arguments with respect to independent Claims 1, 9, 41, 42, and 52 have been considered but are moot in view of the new grounds of rejection.

Claim Objections

3. **Claims 5, 50, 63, 64, 67, and 68** are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form.

Claim 5 recites, "wherein said display part is arranged to display information related to functions assigned to said plurality of switches included in said switch part in the vicinity of said switches, respectively." The newly amended portion of parent Claim 1 already requires this limitation.

Claims 50, 63, 64, 67 and 68 also recite, “wherein the information related to the operation state of the apparatus used together with said input unit and the plural pieces of information indicating the function of each switch are changed in accordance with operation state of the apparatus used together with said input unit.” The newly amended portion of parent Claims 41, 42, 1, and 9, respectively, already requires this limitation.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

5. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned

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with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

6. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR

3.73(b).

7. **Claims 1 – 5, 7, 9, 41, 42, 48, 50 – 53, 55, 56, and 63 – 70** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **Claims 1, 3, 5, 6, 9, 23, 43, 44, 47, 50, and 51** of U.S. Patent No. 7,061,535 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because

- **Claim 1** (present application) is broader and fully encompassed by **Claim 1** (referenced patent). In view of the broadly recited, “displaying plural pieces of information indicating a function of each switch” of Claim 1 (present application), Claim 1 (referenced patent) requires “switch portion being assigned to the function associated with a relative position with respect to said display ... said information related to the function assigned to respective switch portions is presented as a symbol.” Essentially, Claim 1 (referenced patent) at least requires everything that Claim 1 (present application) requires and even further requires the functions be displayed as symbols.

- **Claims 2 and 66** (present application) are substantially and substantively the same as **Claim 5** (referenced patent).

- **Claims 3 and 4** (present application) are substantially and substantively the same as **Claim 9** (referenced patent).

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- **Claim 5** (present application) are substantially and substantively the same as **Claim 6** (referenced patent).

- **Claim 7** (present application) are substantially and substantively the same as **Claim 3** (referenced patent).

- **Claim 67** (present application) are substantially and substantively the same as **Claim 6** (referenced patent).

- **Claims 9 and 68** (present application) are broader and fully encompassed by **Claim 23** (referenced patent). In view of the broadly recited, “displaying plural pieces of information indicating a function of each switch” of Claim 9 (present application), Claim 23 (referenced patent) requires “displays in the vicinity of said switch portions information related to the functions assigned to at least one of said respective switch portions ... said information related to the function assigned to respective switch portions is presented as a symbol.” Essentially, Claim 23 (referenced patent) at least requires everything that Claims 9 and 68 (present application) require and even further requires the functions be displayed as symbols and for the switch unit to be a cross-key type switch unit.

- **Claims 41, 42, and 48** (present application) are broader and fully encompassed by **Claim 43** (referenced patent). In view of the broadly recited, “a switch unit ... comprising a display part ... and a plurality of switches” both of Claims 41 and 42 (present application), Claim 43 (referenced patent) requires “said display displays in the vicinity of said switch portions information related to the functions assigned to at least one of said respective switch portions ... said information related to the function assigned to respective switch portions is presented as a symbol.” Essentially, Claim 43 (referenced patent) at least requires everything that Claims 41,

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42, and 48 (present application) respectively require and even further requires the functions of the switches to be displayed.

- **Claim 50** (present application) are substantially and substantively the same as **Claim 51** (referenced patent).

- **Claim 51** (present application) are substantially and substantively the same as **Claim 47** (referenced patent).

- **Claims 63 and 64** (present application) are substantially and substantively the same as **Claim 44** (referenced patent).

- **Claims 69 and 70** (present application) are also broader and fully encompassed by **Claim 43** (referenced patent). Essentially, Claim 43 (referenced patent) at least requires everything that Claims 69 and 70 (present application) respectively require including that the switch unit (including the display screen) is capable of inclining when a switch is pressed, but even further requires that the switch unit is a cross-key type switch unit.

- **Claims 52, 53, 56, and 65** (present application) are broader and fully encompassed in nearly all respects by **Claim 43** (referenced patent). For example, in view of the broadly recited, “an input unit including a ... display unit ... and a plurality of switches” of Claim 52 (present application), Claim 43 (referenced patent) requires “said display displays in the vicinity of said switch portions information related to the functions assigned to at least one of said respective switch portions ... said information related to the function assigned to respective switch portions is presented as a symbol.” Essentially, Claim 43 (referenced patent) nearly requires everything that Claim 52, 53, 56, and 65 (present application) respectively require; however, Claim 52

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further requires a second display unit disposed separately and in a different place on the apparatus from the display unit of the input unit.

However, **Official Notice** (MPEP § 2144.03) is taken that both the concepts and advantages of providing a capturing apparatus with a second display unit disposed separately and in a different place on an apparatus from a display unit of an input unit are well known and expected in the art. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to have a second display unit disposed separately and in a different place on an apparatus from a display unit of an input unit for the advantage of *informing a user about the operational status of the apparatus during photographing*.

○ **Claim 55** (present application) are substantially and substantively the same as **Claim 50** (referenced patent).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1 – 5, 7, 9, 41, 42, 48, 50 – 53, 55, 56, and 63 – 70** are rejected under 35 U.S.C. 103(a) as being unpatentable over Swayze (US 6,519,003 B1) in view of Hirose et al. (US 4,987,279) in further view of Anderson (US 6,486,914 B1).

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The Examiner notes Claim 9 fully encompasses Claim 1 and Claim 41 fully encompasses Claim 42. Accordingly, the basis for the rejection of Claims 1 and 42 is fully incorporated into the basis for the rejection of Claims 9 and 41, respectively.

10. For **Claims 1 and 9**, Swayze discloses, as shown in figure 2 – 4 and as stated in columns 4 (lines 30 – 46), 5 (lines 27 – 42 and lines 54 – 67), and 6 (lines 1 – 9), a digital camera (40), comprising:

- an image capturing unit (44);

- a controlling unit (62) that controls the image capturing unit (44);

- a processing circuit (62) that processes signals from the image capturing unit (44);

- a display unit (60); and

- an operating unit (70) that accepts user input and includes an input unit (78), said input unit (78) comprising:

 - an instruction input unit (78), a posture of said instruction input unit capable of being displaced by a pressure applied to a first face (78) thereof (see figure 4);

 - a switch pressing unit (72) provided in the vicinity of an outer periphery of a face (82) other than said first face (78) of said instruction input unit (78), said switch pressing unit being capable of being displaced in accordance with the displacement of the instruction input unit (see column 4, lines 30 – 46);

 - a switch part (86) arranged to work by being pressed by said switch pressing unit (72), said switch part (86) comprising a plurality of switches (see figure 4).

The Examiner submits Swayze teaches (column 4, lines 36 – 38) that the “mode dial 72 comprises an outer ring surrounding the inner select button 78, which includes markers 80 for

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selection of four separate directions.” Swayze additionally teaches (column 5, lines 27 – 32) that the “select button 78 includes four raised actuation points: left/right actuation points 128/130 and up/down actuation points 132/134 ... [these points] may constitute separate button segments.” Swayze also indicates (column 5, lines 32 – 42) that “actuation points 128/130 and 132/134 are used to navigate among the image components displayed on the display ... [color] and finish of the select button(s) 78 might be anything desirable.” Finally, Swayze notes a key advantage of the select button is to provide “a single control presentation that intuitively allows the user to cycle through the available choices and options with a minimum of hassle (column 2, lines 61 – 63).

However, Swayze does not disclose wherein the instruction input unit includes a display part, wherein the first face of the instruction input unit includes a display screen of the display part, wherein said display part displays information related to an operation state of an apparatus used together with said input unit; wherein said display part displaying plural pieces of information indicating a function of each switch in an area provided in the vicinity of each switch.

On the other hand and in analogous art, Hirose et al. also disclose a novel input unit for use in an electronic device. More specifically, Hirose et al. teach, as shown in figures 3 – 5 and 8 – 10 and as stated in columns 2 (lines 32 – 51 and 60 – 65), 3 (lines 58 – 65), and 4 (lines 4 – 56), an input unit with an instruction input unit (design display portion 14 @ “approximate central portion”) including a display part (LCD 17) and a first face (design display portion 14) thereof, wherein said first face includes a display screen (LCD 17) of said display part (LCD 17). Hirose et al. further teach a switch part (plunger 29; projecting shaft 31; operating shaft 34; and

switch body 32), of a switch pressing unit (display surface 13), arranged to work by being pressed by said switch pressing unit (display surface 13). Finally, Hirose et al. teach wherein said display part is arranged to display information related to an operation state of an apparatus used together with said input unit (see 1st detailed explanation paragraph below) and wherein the information displayed on said display part indicates a function of the switch pressing unit (see 2nd detailed explanation paragraph below).

1st) Hirose et al. provides a push-button input unit comprising a central display portion (14) and a peripheral portion (14) surrounding the central display portion (14), wherein pressure applied to either the central display portion (14) and/or the peripheral portion (13) will cause the downwardly projecting shaft (31) of the plunger (29) to connect with lead-out terminals within the operating shaft (34) of the switch body (32). Therefore, the switch pressing unit (13) is displaced in accordance with the instruction input unit (14). Hence, Hirose et al. disclose, as shown in figures 8 – 10 and as stated in column 4 (lines 4 – 56), wherein said display part (LCD 17) is arranged to display information related to an operation state of an apparatus (e.g. keyboard) used together with said input unit. Also, the hooked-shaped display portions (15) provided in the switch pressing unit (13) and the display (17) provided in the instruction input unit (14) are operable to represent various modes (see figures 8 – 10) by displaying a plurality of functions (see “the advantages” in column 4).

2nd) Hirose et al. disclose in column 3 (lines 36 – 65), “the design display portion 14 can present ... a display of a plurality of functions ... from an external unit ... a display for selecting a plurality of loads ... and a display conforming to a mode.” The above teaching of Hirose et al. are a clear indication that the display portion (14) of the switch (11) is displaying information

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relating to a function of the switch (11); hence, Hirose et al. do in fact disclose displaying of information indicating the function of the switch.

Essentially, Hirose provides a display button (10) with the option to present “various displays” such as “load use display,” “a display of a plurality of functions or an input screen display from an external unit,” “a display for selecting a plurality of loads,” and “a functional display” (column 3, lines 46 – 53). Hirose additionally discloses (column 4, lines 36 – 46) “[various] types of displays become possible using a program incorporated in an IC.” Finally, Hirose notes (column 1, lines 50 – 66) that a key benefit of the display button is to “enhance distinguishability” by presenting “plural types of displays ... separately displayed and illuminated” in each portion.

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have modified the instruction input unit of Swayze with the teachings of Hirose to form an instruction input unit that includes a display part, wherein the display part displays information related to an operation state of an apparatus used together with the input unit, wherein the display part further displaying plural pieces of information indicating a function of each switch in an area provided in the vicinity of each switch for the advantage of *enhancing distinguishability by presenting plural types of displays, separately displayed and illuminated in each portion* (see Hirose et al.; column 1, lines 50 – 66).

However, Swayze in view of Hirose et al. still do not disclose wherein the apparatus used together with the input unit has a mode switch for setting an operation mode, and the display part displays information related to a first operation mode and information related to a function of each switch in the first operation mode when the mode switch is set to the first operation mode,

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whereas displaying information related to a second operation mode and information related to a function of each switch in the second operation mode when the mode switch is set to the second operation mode.

On the other hand and in analogous art, Anderson also discloses a novel input unit for use in an electronic device (more particularly an electronic camera). More specifically, Anderson teaches, as shown in figures 4, 7A, and 7B, an instruction input unit (entire rear face of camera; figure 4) including a display part (LCD 402). Anderson further teaches a switch part (412) having a plurality of switches (each button of 412; 412a, 412b, and 412c; see figure 7A) arranged around the display part (LCD 402). Moreover, Anderson specifically teaches, as stated in column 7 (line 54) – column 8 (line 42), that the switches (412a, 412b, and 412c) are soft keys and that “the functions assigned to the soft keys 412, and thus the soft key labels 410, are changed in response to several different factors.” Anderson further teaches, “The soft keys 412 may change automatically either in response to user actions, or based on predetermined conditions existing in the camera, such as the current operating mode, the image type, and so on.” Furthermore, Anderson shows a first operating mode of the camera in figure 7A and a second operating mode of the camera in figure 7B with respective functionality for each the switches (412a, 412b, and 412c) in each of the operating modes.

Accordingly, Anderson teaches wherein the apparatus used together with the input unit has a mode switch for setting an operation mode, and the display part displays information related to a first operation mode and information related to a function of each switch in the first operation mode when the mode switch is set to the first operation mode, whereas displaying

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information related to a second operation mode and information related to a function of each switch in the second operation mode when the mode switch is set to the second operation mode.

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have incorporated showing in the display part of the instruction unit the functionality of each switch in each of a plurality of operating modes of an apparatus used together with the instruction unit, as taught by Anderson, in the digital camera with an instruction unit having a display part, taught in combination by Swayze in view of Hirose et al., for the advantage of *“increases the number of functions that may be performed by the camera, while both minimizing the number of buttons required on the user interface, and reducing the need to access hierarchical menus”* (see Anderson; column 8, lines 18 – 22).

11. As for **Claim 2**, Hirose et al. disclose wherein said instruction input unit (13) presses said switch part (plunger 29; projecting shaft 31; operating shaft 34; and switch body 32) via said switch pressing unit (display surface 13) by being displaced around a position in the vicinity of a center of gravity thereof as a displacement center in a direction perpendicular to a face on which said switch part is provided.

The switch part (plunger 29; projecting shaft 31; operating shaft 34; and switch body 32), the instruction input unit (14) and the switch pressing unit (13) lie within a plane(s) parallel to the plane of which the display (17) resides, as shown clearly in figure 4. The displacement center corresponds to the center of gravity of the instruction input unit (13), the switch pressing unit (14), and the switch part (plunger 29; projecting shaft 31; operating shaft 34; and switch body 32) such that the displacement direction is perpendicular to the instruction input unit (13) plane, the switch pressing unit (14) plane; and the switch part (plunger 29; projecting shaft 31;

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operating shaft 34; and switch body 32) plane. In other words, the displacement corresponds to an up and down displacement and not a lateral displacement.

12. As for **Claim 66**, as stated above, Anderson teaches, as shown in figures 4, 7A, and 7B, an instruction input unit (entire rear face of camera; figure 4) including a display part (LCD 402). Anderson further teaches a switch part (412) having a plurality of switches (each button of 412; 412a, 412b, and 412c; see figure 7A) arranged around the display part (LCD 402). Moreover, Anderson specifically teaches, as stated in column 7 (line 54) – column 8 (line 42), that the switches (412a, 412b, and 412c) are soft keys and that “the functions assigned to the soft keys 412, and thus the soft key labels 410, are changed in response to several different factors.” Anderson further teaches, “The soft keys 412 may change automatically either in response to user actions, or based on predetermined conditions existing in the camera, such as the current operating mode, the image type, and so on.” Furthermore, Anderson shows a first operating mode of the camera in figure 7A and a second operating mode of the camera in figure 7B with respective functionality for each the switches (412a, 412b, and 412c) in each of the operating modes.

13. As for **Claim 3**, Swayze teaches, as shown in figure 2 and 4 and as stated in columns 5 (lines 54 – 67) and 6 (lines 1 – 9), a switch part (four-way directional interface 70) includes switches (128, 130, 132, and 134) arranged to form at least one pair (up/down 132/134 and left/right 128/130), said switches (128 – 134) of each of said at least one pair being opposed to each other with said displacement center (90) sandwiched therebetween.

14. As for **Claim 4**, Swayze teaches, as shown in figure 2 and 4 and as stated in columns 5 (lines 54 – 67) and 6 (lines 1 – 9), a switch part (four-way directional interface 70) includes

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switches (128, 130, 132, and 134) arranged substantially at an upper position (132), a lower position (134), a right position (130) and a left position (128) with respect to a displacement center (90).

15. As for **Claim 5** (please see objection above), as stated above, Anderson teaches, as shown in figures 4, 7A, and 7B, an instruction input unit (entire rear face of camera; figure 4) including a display part (LCD 402). Anderson further teaches a switch part (412) having a plurality of switches (each button of 412; 412a, 412b, and 412c; see figure 7A) arranged around the display part (LCD 402). Moreover, Anderson specifically teaches, as stated in column 7 (line 54) – column 8 (line 42), that the switches (412a, 412b, and 412c) are soft keys and that “the functions assigned to the soft keys 412, and thus the soft key labels 410, are changed in response to several different factors.” Anderson further teaches, “The soft keys 412 may change automatically either in response to user actions, or based on predetermined conditions existing in the camera, such as the current operating mode, the image type, and so on.” Furthermore, Anderson shows a first operating mode of the camera in figure 7A and a second operating mode of the camera in figure 7B with respective functionality for each the switches (412a, 412b, and 412c) in each of the operating modes.

16. As for **Claim 7**, Hirose et al. disclose, as shown in figures 8 – 10 and as stated in columns 2 (lines 43 – 46) and 4 (lines 4 – 56), wherein said display part (LCD 17) is arranged to display one of a plurality of background colors that is determined in accordance with an operation state of an apparatus (e.g. keyboard) used together with said input unit.

The hooked-shaped display portions (15) provided in the switch pressing unit (13) and the display (17) provided in the instruction input unit (14) are operable to represent various

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modes (see figures 8 – 10) by displaying a plurality of functions (see “the advantages” in column 4).

17. As for **Claim 67 and 68** (please see objection above), as stated above, Anderson teaches, as shown in figures 4, 7A, and 7B, an instruction input unit (entire rear face of camera; figure 4) including a display part (LCD 402). Anderson further teaches a switch part (412) having a plurality of switches (each button of 412; 412a, 412b, and 412c; see figure 7A) arranged around the display part (LCD 402). Moreover, Anderson specifically teaches, as stated in column 7 (line 54) – column 8 (line 42), that the switches (412a, 412b, and 412c) are soft keys and that “the functions assigned to the soft keys 412, and thus the soft key labels 410, are changed in response to several different factors.” Anderson further teaches, “The soft keys 412 may change automatically either in response to user actions, or based on predetermined conditions existing in the camera, such as the current operating mode, the image type, and so on.” Furthermore, Anderson shows a first operating mode of the camera in figure 7A and a second operating mode of the camera in figure 7B with respective functionality for each the switches (412a, 412b, and 412c) in each of the operating modes.

18. For **Claims 41 and 42**, Swayze discloses, as shown in figure 2 – 4 and as stated in columns 4 (lines 30 – 46), 5 (lines 27 – 42 and lines 54 – 67), and 6 (lines 1 – 9), a capturing apparatus (40) for capturing an image, comprising:

- a body having a body face (back surface 40’);and

- a switch unit (78) disposed on said body comprising a plurality of switches (86; see figure 4) arranged in surroundings of said switch unit (78);

said switch unit (78) being inclined with said plurality of switches (86) with respect to a plane of said body face, when at least one of the plurality of switches is pressed to function (see figure 4; also see column 5, lines 27 – 42).

The Examiner submits Swayze teaches (column 4, lines 36 – 38) that the “mode dial 72 comprises an outer ring surrounding the inner select button 78, which includes markers 80 for selection of four separate directions.” Swayze additionally teaches (column 5, lines 27 – 32) that the “select button 78 includes four raised actuation points: left/right actuation points 128/130 and up/down actuation points 132/134 ... [these points] may constitute separate button segments.” Swayze also indicates (column 5, lines 32 – 42) that “actuation points 128/130 and 132/134 are used to navigate among the image components displayed on the display ... [color] and finish of the select button(s) 78 might be anything desirable.” Finally, Swayze notes a key advantage of the select button is to provide “a single control presentation that intuitively allows the user to cycle through the available choices and options with a minimum of hassle (column 2, lines 61 – 63).

However, Swayze does not disclose wherein the switch unit includes a central display part, such that the plurality of switches are arranged in the surroundings of the display part and such that the switch unit is inclined together with the display part.

On the other hand and in analogous art, Hirose et al. also disclose a novel input unit for use in an electronic device. More specifically, Hirose et al. teach, as shown in figures 3 – 5 and 8 – 10 and as stated in columns 2 (lines 32 – 51 and 60 – 65), 3 (lines 58 – 65), and 4 (lines 4 – 56), a switch unit (design display portion 14 @ “approximate central portion”) including a central display part (LCD 17). Hirose et al. further teach a switch part (plunger 29; projecting

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shaft 31; operating shaft 34; and switch body 32), of a switch pressing unit (display surface 13), arranged to work by being pressed by said switch pressing unit (display surface 13).

Essentially, Hirose et al. provides a push-button input unit comprising a central display portion (14) and a peripheral portion (14) surrounding the central display portion (14), wherein pressure applied to either the central display portion (14) and/or the peripheral portion (13) will cause the downwardly projecting shaft (31) of the plunger (29) to connect with lead-out terminals within the operating shaft (34) of the switch body (32). Therefore, the switch pressing unit (13) is displaced in accordance with the display part (17).

Thus, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have modified the switch unit of Swayze with the teachings of Hirose to form a switch unit which includes a central display part, such that the plurality of switches are arranged in the surroundings of the display part and such that the switch unit is inclined together with the display part for the advantage of *enhancing distinguishability by presenting plural types of displays, separately displayed and illuminated in each portion* (see Hirose et al.; column 1, lines 50 – 66).

However, Swayze in view of Hirose et al. still do not disclose wherein the apparatus used together with the input unit has a mode switch for setting an operation mode, and the display part displays information related to a first operation mode and information related to a function of each switch in the first operation mode when the mode switch is set to the first operation mode, whereas displaying information related to a second operation mode and information related to a function of each switch in the second operation mode when the mode switch is set to the second operation mode.

On the other hand and in analogous art, Anderson also discloses a novel input unit for use in an electronic device (more particularly an electronic camera). More specifically, Anderson teaches, as shown in figures 4, 7A, and 7B, an instruction input unit (entire rear face of camera; figure 4) including a display part (LCD 402). Anderson further teaches a switch part (412) having a plurality of switches (each button of 412; 412a, 412b, and 412c; see figure 7A) arranged around the display part (LCD 402). Moreover, Anderson specifically teaches, as stated in column 7 (line 54) – column 8 (line 42), that the switches (412a, 412b, and 412c) are soft keys and that “the functions assigned to the soft keys 412, and thus the soft key labels 410, are changed in response to several different factors.” Anderson further teaches, “The soft keys 412 may change automatically either in response to user actions, or based on predetermined conditions existing in the camera, such as the current operating mode, the image type, and so on.” Furthermore, Anderson shows a first operating mode of the camera in figure 7A and a second operating mode of the camera in figure 7B with respective functionality for each the switches (412a, 412b, and 412c) in each of the operating modes.

Accordingly, Anderson teaches wherein the apparatus used together with the input unit has a mode switch for setting an operation mode, and the display part displays information related to a first operation mode and information related to a function of each switch in the first operation mode when the mode switch is set to the first operation mode, whereas displaying information related to a second operation mode and information related to a function of each switch in the second operation mode when the mode switch is set to the second operation mode.

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have incorporated showing in the display part of the instruction unit

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the functionality of each switch in each of a plurality of operating modes of an apparatus used together with the instruction unit, as taught by Anderson, in the digital camera with an instruction unit having a display part, taught in combination by Swayze in view of Hirose et al., for the advantage of *“increases the number of functions that may be performed by the camera, while both minimizing the number of buttons required on the user interface, and reducing the need to access hierarchical menus”* (see Anderson; column 8, lines 18 – 22).

19. As for **Claim 48**, Swayze discloses, as shown in figure 3, wherein an input unit (14) is arranged on an upper-right side of a center of a face of said capturing apparatus that faces a user when being used (see column 5, lines 5 – 42).

20. As for **Claims 50, 63, and 64** (please see objection above), Anderson teaches, as shown in figures 4, 7A, and 7B, an instruction input unit (entire rear face of camera; figure 4) including a display part (LCD 402). Anderson further teaches a switch part (412) having a plurality of switches (each button of 412; 412a, 412b, and 412c; see figure 7A) arranged around the display part (LCD 402). Moreover, Anderson specifically teaches, as stated in column 7 (line 54) – column 8 (line 42), that the switches (412a, 412b, and 412c) are soft keys and that “the functions assigned to the soft keys 412, and thus the soft key labels 410, are changed in response to several different factors.” Anderson further teaches, “The soft keys 412 may change automatically either in response to user actions, or based on predetermined conditions existing in the camera, such as the current operating mode, the image type, and so on.” Furthermore, Anderson shows a first operating mode of the camera in figure 7A and a second operating mode of the camera in figure 7B with respective functionality for each the switches (412a, 412b, and 412c) in each of the operating modes.

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21. As for **Claim 51**, Hirose et al. teach, as shown in figures 4, 5, and 8 – 10 and as stated in columns 2 (lines 43 – 46) and 4 (lines 4 – 56), wherein the display part (3) selects a background color for display corresponding to a particular operating mode of the apparatus.

22. As for **Claim 69 and 70**, said switch unit (78) being inclined with said plurality of switches (86) with respect to a plane of said body face, when at least one of the plurality of switches is pressed to function (see figure 4; also see column 5, lines 27 – 42).

The Examiner submits Swayze teaches (column 4, lines 36 – 38) that the “mode dial 72 comprises an outer ring surrounding the inner select button 78, which includes markers 80 for selection of four separate directions.” Swayze additionally teaches (column 5, lines 27 – 32) that the “select button 78 includes four raised actuation points: left/right actuation points 128/130 and up/down actuation points 132/134 ... [these points] may constitute separate button segments.” Swayze also indicates (column 5, lines 32 – 42) that “actuation points 128/130 and 132/134 are used to navigate among the image components displayed on the display ... [color] and finish of the select button(s) 78 might be anything desirable.” Finally, Swayze notes a key advantage of the select button is to provide “a single control presentation that intuitively allows the user to cycle through the available choices and options with a minimum of hassle (column 2, lines 61 – 63).

The Examiner previously indicated that it would have been obvious to one with ordinary skill in the art to have modified the switch unit of Swayze with the teachings of Hirose to form a switch unit which includes a central display part, such that the plurality of switches are arranged in the surroundings of the display part and such that the switch unit is inclined together with the display part for the advantage of *enhancing distinguishability by presenting plural types of*

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displays, separately displayed and illuminated in each portion (see Hirose et al.; column 1, lines 50 – 66).

Thus, the combination of Swayze in view of Hirose would yield wherein said display screen is capable of inclining to a plurality of directions corresponding to said plurality of switches, and at least one of said plurality of switches functions according to the direction to which said display screen inclines, as claimed.

23. For **Claim 52**, Swayze discloses, as shown in figure 2 – 4 and as stated in columns 4 (lines 30 – 46), 5 (lines 27 – 42 and lines 54 – 67), and 6 (lines 1 – 9), a capturing apparatus (40) for capturing an image, comprising:

an input unit (78) including a plurality of switches (86; see figure 4) arranged in the vicinity of outer periphery thereof to form at least one pair (128/130 and 132/134), said switches of each of said at least one pair being opposed to each other (clearly shown in figure 4); and

a second display unit (60) disposed separately from the *input unit (78)* on a different place on the capturing apparatus (40) that the *input unit (78)*, wherein

a means is provided for incorporating at least a part of *function of input unit (78)*, into said second display unit (60; see column 5, lines 43 – 53), and

said least one pair of switches (128/130 and 132/134) being mechanical switches (figure 4).

The Examiner submits Swayze teaches (column 4, lines 36 – 38) that the “mode dial 72 comprises an outer ring surrounding the inner select button 78, which includes markers 80 for selection of four separate directions.” Swayze additionally teaches (column 5, lines 27 – 32) that the “select button 78 includes four raised actuation points: left/right actuation points 128/130 and

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up/down actuation points 132/134 ... [these points] may constitute separate button segments.” Swayze also indicates (column 5, lines 32 – 42) that “actuation points 128/130 and 132/134 are used to navigate among the image components displayed on the display ... [color] and finish of the select button(s) 78 might be anything desirable.” Finally, Swayze notes a key advantage of the select button is to provide “a single control presentation that intuitively allows the user to cycle through the available choices and options with a minimum of hassle (column 2, lines 61 – 63).

However, Swayze does not disclose wherein the instruction input unit includes a display part, wherein the first face of the instruction input unit includes a display screen of the display part, wherein said display part displays information related to an operation state of an apparatus used together with said input unit; wherein said display part displaying plural pieces of information indicating a function of each switch in an area provided in the vicinity of each switch.

On the other hand and in analogous art, Hirose et al. also disclose a novel input unit for use in an electronic device. More specifically, Hirose et al. teach, as shown in figures 3 – 5 and 8 – 10 and as stated in columns 2 (lines 32 – 51 and 60 – 65), 3 (lines 58 – 65), and 4 (lines 4 – 56), an input unit with an instruction input unit (design display portion 14 @ “approximate central portion”) including a display part (LCD 17) and a first face (design display portion 14) thereof, wherein said first face includes a display screen (LCD 17) of said display part (LCD 17). Hirose et al. further teach a switch part (plunger 29; projecting shaft 31; operating shaft 34; and switch body 32), of a switch pressing unit (display surface 13), arranged to work by being pressed by said switch pressing unit (display surface 13). Finally, Hirose et al. teach wherein

said display part is arranged to display information related to an operation state of an apparatus used together with said input unit (see 1st detailed explanation paragraph below) and wherein the information displayed on said display part indicates a function of the switch pressing unit (see 2nd detailed explanation paragraph below).

1st) Hirose et al. provides a push-button input unit comprising a central display portion (14) and a peripheral portion (14) surrounding the central display portion (14), wherein pressure applied to either the central display portion (14) and/or the peripheral portion (13) will cause the downwardly projecting shaft (31) of the plunger (29) to connect with lead-out terminals within the operating shaft (34) of the switch body (32). Therefore, the switch pressing unit (13) is displaced in accordance with the instruction input unit (14). Hence, Hirose et al. disclose, as shown in figures 8 – 10 and as stated in column 4 (lines 4 – 56), wherein said display part (LCD 17) is arranged to display information related to an operation state of an apparatus (e.g. keyboard) used together with said input unit. Also, the hooked-shaped display portions (15) provided in the switch pressing unit (13) and the display (17) provided in the instruction input unit (14) are operable to represent various modes (see figures 8 – 10) by displaying a plurality of functions (see “the advantages” in column 4).

2nd) Hirose et al. disclose in column 3 (lines 36 – 65), “the design display portion 14 can present ... a display of a plurality of functions ... from an external unit ... a display for selecting a plurality of loads ... and a display conforming to a mode.” The above teaching of Hirose et al. are a clear indication that the display portion (14) of the switch (11) is displaying information relating to a function of the switch (11); hence, Hirose et al. do in fact disclose displaying of information indicating the function of the switch.

Essentially, Hirose provides a display button (10) with the option to present “various displays” such as “load use display,” “a display of a plurality of functions or an input screen display from an external unit,” “a display for selecting a plurality of loads,” and “a functional display” (column 3, lines 46 – 53). Hirose additionally discloses (column 4, lines 36 – 46) “[various] types of displays become possible using a program incorporated in an IC.” Finally, Hirose notes (column 1, lines 50 – 66) that a key benefit of the display button is to “enhance distinguishability” by presenting “plural types of displays ... separately displayed and illuminated” in each portion.

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have modified the instruction input unit of Swayze with the teachings of Hirose to form an instruction input unit that includes a display part, wherein the display part displays information related to an operation state of an apparatus used together with the input unit, wherein the display part further displaying plural pieces of information indicating a function of each switch in an area provided in the vicinity of each switch for the advantage of *enhancing distinguishability by presenting plural types of displays, separately displayed and illuminated in each portion* (see Hirose et al.; column 1, lines 50 – 66).

However, Swayze in view of Hirose et al. still do not disclose wherein the apparatus used together with the input unit has a mode switch for setting an operation mode, and the display part displays information related to a first operation mode and information related to a function of each switch in the first operation mode when the mode switch is set to the first operation mode, whereas displaying information related to a second operation mode and information related to a

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function of each switch in the second operation mode when the mode switch is set to the second operation mode.

On the other hand and in analogous art, Anderson also discloses a novel input unit for use in an electronic device (more particularly an electronic camera). More specifically, Anderson teaches, as shown in figures 4, 7A, and 7B, an instruction input unit (entire rear face of camera; figure 4) including a display part (LCD 402). Anderson further teaches a switch part (412) having a plurality of switches (each button of 412; 412a, 412b, and 412c; see figure 7A) arranged around the display part (LCD 402). Moreover, Anderson specifically teaches, as stated in column 7 (line 54) – column 8 (line 42), that the switches (412a, 412b, and 412c) are soft keys and that “the functions assigned to the soft keys 412, and thus the soft key labels 410, are changed in response to several different factors.” Anderson further teaches, “The soft keys 412 may change automatically either in response to user actions, or based on predetermined conditions existing in the camera, such as the current operating mode, the image type, and so on.” Furthermore, Anderson shows a first operating mode of the camera in figure 7A and a second operating mode of the camera in figure 7B with respective functionality for each the switches (412a, 412b, and 412c) in each of the operating modes.

Accordingly, Anderson teaches wherein the apparatus used together with the input unit has a mode switch for setting an operation mode, and the display part displays information related to a first operation mode and information related to a function of each switch in the first operation mode when the mode switch is set to the first operation mode, whereas displaying information related to a second operation mode and information related to a function of each switch in the second operation mode when the mode switch is set to the second operation mode.

Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have incorporated showing in the display part of the instruction unit the functionality of each switch in each of a plurality of operating modes of an apparatus used together with the instruction unit, as taught by Anderson, in the digital camera with an instruction unit having a display part, taught in combination by Swayze in view of Hirose et al., for the advantage of *“increases the number of functions that may be performed by the camera, while both minimizing the number of buttons required on the user interface, and reducing the need to access hierarchical menus”* (see Anderson; column 8, lines 18 – 22).

24. As for **Claim 53**, Swayze discloses, as shown in figure 3, wherein an input unit (14) is arranged on an upper-right side of a center of a face of said capturing apparatus that faces a user when being used (see column 5, lines 5 – 42). Swayze additionally discloses, as stated in column 5 (lines 43 – 53), wherein said second display unit (60) is arranged to display information related to the function performed by one of the switches (86) of the input unit (78), which includes an upper switch and a left switch.

25. As for **Claim 55**, Swayze teaches (column 4, lines 36 – 38) that the “mode dial 72 comprises an outer ring surrounding the inner select button 78, which includes markers 80 for selection of four separate directions.” Swayze additionally teaches (column 5, lines 27 – 32) that the “select button 78 includes four raised actuation points: left/right actuation points 128/130 and up/down actuation points 132/134 ... [these points] may constitute separate button segments.” Swayze also indicates (column 5, lines 32 – 42) that “actuation points 128/130 and 132/134 are used to navigate among the image components displayed on the display ... [color] and finish of the select button(s) 78 might be anything desirable.” Finally, Swayze notes a key advantage of

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the select button is to provide “a single control presentation that intuitively allows the user to cycle through the available choices and options with a minimum of hassle (column 2, lines 61 – 63).

Also, as indicated above, it would have been obvious to one with ordinary skill in the art to have modified the instruction input unit of Swayze with the teachings of Hirose to form an instruction input unit that includes a display part, wherein the display part displays information related to an operation state of an apparatus used together with the input unit, wherein the display part further displaying plural pieces of information indicating a function of each switch in an area provided in the vicinity of each switch for the advantage of *enhancing distinguishability by presenting plural types of displays, separately displayed and illuminated in each portion* (see Hirose et al.; column 1, lines 50 – 66).

Therefore, the combination of Swayze in view of Hirose would yield wherein said switches are arranged approximately at an upper position, a lower position, a right position and a left position with respect to said first display unit, as claimed.

26. As for **Claim 56**, Swayze discloses, as shown in figure 3, wherein said input unit (78) and said second display unit (60) are arranged on the same plane of a body face of said capturing apparatus (camera back face 40’).

27. As for **Claim 65**, Swayze discloses, as shown in figure 3, a body (40) on which the *input unit* (78), which via obviousness includes the first display unit, and said second display unit (60) are arranged independently (camera back face 40’).

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Cited Prior Art

28. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure for the following reason:

Rynk et al. (US 5,822,690) disclose a multi-pole switch assembly including an LCD display and virtual pivot action.

Conclusion

29. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Vivek Srivastava can be reached on 571.272.7304. The fax phone number for the organization where this application or proceeding is assigned is 571.273.3000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Justin Misleh
Examiner, GAU 2622
March 5, 2007